

# Madeline E. Hess

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## EDUCATION

2015 – Present **DARTMOUTH COLLEGE**, Hanover, NH  
Bachelor of Arts (expected) June 2019  
Majors: *Quantitative Social Science, Economics*  
Minor: *Computer Science*

### SELECTED COURSEWORK

Machine Learning & Statistical Analysis, Topics: Millennium Prize Problems, Data Visualization, Game Theory, Differential Equations, Open Economy Macroeconomics, Software Design and Implementation.

2011 – 2015 **TAMALPAIS HIGH SCHOOL**, Mill Valley, CA  
*Highest Honors, 4-year "Scholar Athlete"*

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## EXPERIENCE

- 2018 – Present **UBER TECHNOLOGIES INC.**, San Francisco, CA  
***Intern, Global Security*** (June – September 2018)
- Designed dashboards and data visualization tools to provide real-time information regarding riders and driver behavior in disasters, and used findings to propose actions for Uber to assist civilians during emergencies
  - Constructed a tracking platform to ensure compliance and preparedness during JUMP launch into 50 cities
  - Acted as an arsonist and trouble-shooter to identify gaps and build solutions for all teams
- Intern, Physical Security*** (January – March 2018)
- Developed a web portal to visualize security data using Mapbox-GL.js, a geospatial mapping library, in order to communicate data-driven insight to security team leaders
  - Analyzed causes for underreporting in sentiment analysis software and implemented improvement solutions
- 2018 – Present **DIGITAL ARTS, LEADERSHIP & INNOVATION LAB**, Hanover, NH  
***Developer***
- Worked with startups to build products and demos over a fast-paced, 10-week period
  - Generated beautiful and informative data visualizations highlighting the lab's work
  - Built and deployed web platform and database for users from any background (kindergarten through academia) to visualize data on pine beetle infestations as climate change causes them to spread
- 2017 – 2018 **COLLEGE PULSE, LLC.**, Hanover, NH  
***Data Analyst***
- Performed statistical analysis to identify unusual findings, correlations, and predictive relationships in data
  - Contributed articles and data visualizations using JavaScript and the D3.js library
  - Acted as primary troubleshooter for data analysis, website issues, and survey generation for the team
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## PROJECTS

- **PROJECT PINE BEETLE**  
Currently working with the US Forest Service to develop a website for visualizing data about forest health. Frontend built using JavaScript, HTML and CSS. Database to be built using MongoDB.
  - **PART OF SPEECH TAGGER**  
Uses a Hidden Markov Model to predict the part of speech for each word in a file or statement entered in the command line with greater than 90% accuracy. Implemented in Java.
  - **HUFFMAN ENCODER**  
Compresses any file according to the Huffman encoding algorithm to conserve storage space. Successfully compressed the entire text of *War and Peace* from 3.2MB to 1.8MB. Implemented in Java.
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## PERSONAL

- **Computer:** Proficient in C, Java, JavaScript, Python, R, SQL, MATLAB, Git version control.
- **Leadership:** President of the Dartmouth Coffee Club (2017-Present). President of the Dartmouth Inter-Sorority Council (2018-Present).
- **Interests:** Bouldering, whitewater and ocean kayaking, ceramics, 3Blue1Brown, coffee roasting.